Environmental Analysis

For the

Foothills Western White Pine Realized Gain Trial

Prepared By

Forest Management Bureau, Trust Land Management Division

Montana Department of Natural Resources and Conservation

September 2010

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CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Foothills Western White Pine Realized Gain Trial
Proposed Implementation Date:	September 2010
Proponent:	Forest Management Bureau, Trust Land Management Division: Montana DNRC
Location:	Bigfork, Montana
County:	Flathead

I. TYPE AND PURPOSE OF ACTION

The Forest Management Bureau, Trust Land Management Division of the Montana Department of Natural Resources and Conservation (DNRC) is proposing the Foothills Western White Pine Realized Gain Trial. The project area is located approximately 5 miles northeast of Bigfork, Montana within Section 14, T.27N, R.19W (see Vicinity Map in Attachment A). The acreage of state land involved in the project is held by the State in trust for the support of specific beneficiary institutions (*Enabling Act, 1889: 1972 Montana Constitution, Article X, Section 11).* s. 14 – Public Buildings.

Under the proposed action, approximately 18 acres in Section 14 would be treated with timber harvesting and site preparation activities followed by planting of approximately 7000 western white pine seedlings in order to install a western white pine realized gain trial. The purpose of this realized gain trial is to conduct long term research and monitoring of white pine blister rust (*Cronartium ribicola*) infection rates and subsequent survival and mortality of various generations and families of rust-resistant western white pine (*Pinus monticola*).

Western white pine has a limited distribution in Montana due to its requirements for moist growing sites, and plays an important ecological role where it occurs. White pine blister rust, a non-native disease affecting five-needle pines, including western white pine, has greatly reduced the amount of western white pine on the landscape. The information acquired from the proposed research will augment the western white pine breeding program by identifying selections that are most resistant to blister rust, and assist foresters and land managers in making decisions to increase and restore western white pine across its range.

If the Action Alternative is selected, activities could begin in September 2010.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

DNRC resource specialists and pertinent staff were informed and visited the project area. The Director of the Inland Empire Tree Improvement Cooperative also visited the project area.

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Montana Department of Environmental Quality

DNRC is classified as a major open burner by the Montana Department of Environmental Quality (DEQ), and is issued a permit from the DEQ to conduct burning activities on State lands managed by the DNRC. As a major open burning permit holder, DNRC agrees to comply with all of the limitations and conditions of the permit.

Montana/Idaho Airshed Group

DNRC is a member of the Montana/Idaho Airshed Group, which regulates prescribed burning, including both slash and broadcast burning, related to forest management activities done by DNRC. As a member of the Airshed Group, DNRC agrees to burn only on days approved for good smoke dispersion as determined by the Smoke Management Unit in Missoula, MT.

3. ALTERNATIVES CONSIDERED:

No Action Alternative: Under the No Action Alternative, the western white pine realized gain trial would not be established on state land. No timber harvesting would occur, but site preparation and tree planting planned as part of the Foothills Timber Sale project would continue. Effects of the No Action Alternative are further described in the Resource Analyses in EAC.

Action Alternative: Under the Action Alternative, DNRC would establish a realized gain trial for western white pine on 18 acres of State trust land (see Project Area Map in Attachment A). Timber harvesting would remove approximately 18 MBF from 18 acres, with an overstory removal treatment on 15 acres previously harvested in cutting unit BL2 of the Foothills #1 Timber Sale, and clearcutting on 3 acres of immediately adjacent forest. Site preparation and planting of approximately 7000 western white pine seedlings would occur on 12 acres.

The proposed action will require two site-specific alternative practices to the Administrative Rules of Montana (ARM) for Forest Management (see Attachment C). Other issues have been resolved or mitigated through project design or would be included as specific contractual requirements of this project. Recommendations to minimize direct, indirect and cumulative effects have been incorporated in the project design.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

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4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:
Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

According to Upper Flathead Valley Area, Montana (MT617), the soil in the proposed project area is listed as Wh. This is a Waits Stony Silt Loam, and is not considered a highly erosive soil.

The site had timber harvest conducted within the past 5 years. Skid trail spacing is approximately 50-60 feet, on average, and no skid trail erosion was identified during field review. At a 60-foot average spacing on skid trails, approximately 20% of the area was trafficked by ground-based equipment, and approximately 15% of the total soils on the site were left in an impacted condition. This is within the levels analyzed for in the Foothills EIS. Approximately 10-12 tons of large woody material was left on the site for nutrient cycling.

Direct, Indirect and Cumulative Effects of the No Action Alternative
No additional direct, indirect or cumulative effects would result from this alternative beyond the existing condition and natural changes.

Direct, Indirect and Cumulative Effects of the No Action Alternative
The expected impacts to the site as a result of the proposed project are:

1) Direct and indirect impacts include soil disturbance, including possible compaction and/or displacement, as a result of ground based machinery traffic in order to remove and pile woody material. This is expected to be light disturbance, more akin to scarification, and has a low risk of affecting tree growth. Risk of adverse effects to the soils would be minimized by limiting brush piling to periods where soil moisture is below 20%.
2) Cumulative effects include the potential of repeat entries increasing compaction or displacement when considered with past entries. The risk of adverse cumulative effects to compaction and displacement would be minimized by limiting brush piling to periods where soil moisture is below 20%.

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5. WATER QUALITY, QUANTITY AND DISTRIBUTION:
Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

The proposed project lies within the Wolf Creek watershed. Wolf Creek is located approximately 100-150 feet from the Foothills Timber Sale harvest unit that contains the project area, and is at least 200 feet south of any of the proposed clearing and study. The project area contains a draw along its south boundary. This draw is approximately 15 feet across and 3-4 feet deep. There is no evidence of scour, and no portion of this draw meets the definition of a stream as described in ARM 36.11.312.

No harvesting occurred within 100 feet of Wolf Creek during recent timber harvesting. As a result, field review showed no impacts to water quality as a result of past logging activity. The draw on the south boundary of the project area had ground based skidding through it at approximate 200 foot intervals during recent harvest operations. These draw crossing sites show no signs of erosion, and no sediment delivery to the draw was identified during field review.

Direct, Indirect and Cumulative Effects of the No Action Alternative
No additional direct, indirect or cumulative effects would result from this alternative beyond the existing condition and natural changes.

Direct, Indirect and Cumulative Effects of the No Action Alternative
There is a very low risk of adverse direct, indirect or cumulative effects to Wolf Creek or the draw to the south of the proposed project. None of the woody material clearing would occur within 200 feet of Wolf Creek, and terrain is gentle to level throughout the project area, so there is a very low risk of sediment delivery. There is also a very low risk of sediment delivery to the draw on the south portion of the project area since the draw would only be crossed at locations used for skidding in the Foothills Timber Sale operations.

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6. AIR QUALITY:
What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

No impact to Class 1 Airshed would occur as a result of implementing the Action Alternative.

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7. VEGETATION COVER, QUANTITY AND QUALITY:
What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

The project area encompasses an 18 acre area consisting of 15 acres that were previously treated as a part of cutting unit BL2 in the Foothills #1 Timber Sale and re-entered in 2009 and 2010 to salvage seed trees that had blown down, and three adjacent untreated acres. The project area includes three DNRC Stand Level Inventory (SLI) polygons; information for each stand is summarized in Table 1.

Stand ID	Acres within Project Area	Current Cover Type	Desired Future Condition	Age Class	Stand Structure	Species (%)	Total Stocking	Sawtimber Stocking
27_N19_W140000C	15	Mixed Conifer	Western White Pine	100-149	Single-storied		Poor	Poor
27_N19_W1400005	1	Mixed Conifer	Ponderosa Pine	40-99	Multi-storied	GF (40), WL (20), DF (20), CO (20)	Medium	N/A
27_N19_W1400006	2	Western White Pine	Western White Pine	150+	Multi-storied	GF (70), DF (20), WWP (10)	Well	Poor

There are no old-growth stands in the project area. No rare or sensitive plants or vegetative communities are present within the project area.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No appreciable changes in vegetative cover, quantity, and quality would occur in the project area. Site preparation and planting that was planned following the Foothills #1 Timber Sale would occur as planned on the 15 acres within the project area that was harvested in cutting unit BL2.

Direct, Indirect, and Cumulative Effects of the Action Alternative

On the 15 acres previously treated, the remaining overstory, including snags and snag recruits, would be removed. On the three untreated acres within the project area, all overstory vegetation would be removed, resulting in an 18 acre area with no overstory trees, snags, or snag recruits. Advanced regeneration and non-merchantable timber and non-timber species, such as birch, would be removed on 18 acres.

Twelve acres that are currently classified as mixed conifer would be converted to the western white pine type through the planting of approximately 7000 test trees. On the remaining six acres within the project area, natural regeneration would be expected to result in a mixture of western white pine, grand fir, and Douglas-fir that would be classified as either a mixed conifer or western white pine cover type. The age class on all 18 acres would shift to the 0-39 year class. Stand structure on 18 acres would shift to a single-storied stand, and after planting and natural regeneration the project area would be expected to be well-stocked.

Given that 15 acres of the 18 acre area had been previously treated, the cumulative effects of this action in addition to other past, present, and future activities would be minimal.

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8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:
Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

A mixture of recently harvested stands and some mature conifer stands make up the project area; the project area provides habitats for a variety of wildlife resources requiring those differing stand conditions. Some snags and abundant coarse woody debris have been retained with past harvesting in the project area; dead-wood habitats are available for those species that rely on those resources. The project area includes elk and white-tailed deer winter range. Non-winter use of the area by big game occurs. Small portions of the project area are providing snow intercept and thermal cover attributes for big game; much of the project area have been harvested and are not providing thermal cover or snow intercept. Hiding cover has also been reduced across much of the project area with past harvesting, but some visual screening was retained along the open road.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No appreciable changes in existing habitats would occur in the project area. No changes in stand age, stand composition, human disturbance, thermal cover and snow intercept, or hiding cover would be anticipated. Overall, no direct, indirect, or cumulative effects would be anticipated to general wildlife species.

Direct, Indirect, and Cumulative Effects of the Action Alternative

The proposed activities would reduce snags and coarse woody debris habitats on 18 acres. Habitats for species that rely on forested conditions would see a negligible reduction in available habitats. No appreciable changes in stand age or stand composition would be anticipated. Negligible changes in big game hiding cover and thermal cover would be anticipated; the visual screen along the open road retained with past activities would be maintained. Proposed activities could disturb wildlife in the vicinity. Overall, negligible direct, indirect, or cumulative effects would be anticipated to general wildlife species.

Aquatics
No fish-bearing streams are found within 200 feet of the proposed project area. As specified in the water quality analysis, there is a very low risk of sediment delivery to this stream. As a result no impacts to fish or aquatic species are expected to result from this project.

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9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:
Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

The project area is in the Noisy/Red Owl grizzly bear subunit of the North Continental Divide Ecosystem and is largely spring and fall grizzly bear habitats. Presently open roads, private residences, and general lack of large secure areas have decreased grizzly bear habitat quality in the vicinity. Previous harvesting retained a visual screen along the

open road, which could reduce some disturbance to grizzly bears should they be using the area. The project area occurs between 3,000-3,200 feet and lacks any Canada lynx habitats. The project area supports big game species, but no known wolf packs exist in the area. Thus since no use by Canada lynx and gray wolves would be anticipated, no direct, indirect, or cumulative effects would be anticipated and these species will not be discussed further. Limited potential pileated woodpecker and fisher habitats exist in the un-harvested portions of the project area. The project area is in the home range of the Ferndale bald eagle territory.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No appreciable changes in existing habitats would occur in the project area. No changes in open road densities or security habitat would be anticipated. No appreciable changes in hiding cover would be anticipated; the existing visual screen along the open road would be maintained. Continued use of the open road could disturb grizzly bears should they be in the area. No changes in bald eagle habitats or disturbance levels would be anticipated. Overall, no direct, indirect, or cumulative effects would be anticipated to threatened, endangered, or sensitive species.

Direct, Indirect, and Cumulative Effects of the Action Alternative

Proposed activities would increase disturbance to grizzly bears should they be in the area. Any disturbance would be additive to ongoing activities in the vicinity. No changes in open road densities or security habitat would be anticipated. No appreciable changes in hiding cover would be anticipated; the existing visual screen along the open road would be maintained. Thus negligible direct, indirect, or cumulative effect to grizzly bears would be anticipated.

Some potentially suitable pileated woodpecker habitats and upland fisher habitats would be altered with the proposed activities on a small portion of the project area. Reductions in snags and coarse woody debris could reduce pileated woodpecker foraging and nesting habitats as well as fisher resting habitats. Forested stands in the vicinity could still provide pileated woodpecker and fisher habitats. Any disturbance and habitat changes would be additive to ongoing harvesting and thinning in the vicinity. Overall negligible direct, indirect, or cumulative effects would be anticipated to pileated woodpeckers and fisher. No appreciable changes to bald eagle habitats or disturbance levels would be anticipated given the anticipated season of operations, habitats present, and distance to the active nest. Habitats for other sensitive species are either not present and or would not be affected with the proposed activities.

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10. HISTORICAL AND ARCHAEOLOGICAL SITES:
Identify and determine effects to historical, archaeological or paleontological resources.

No historic or archaeological sites have been located or identified in this area.

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11. AESTHETICS:
Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No appreciable changes in visuals would occur in the project area.

Direct, Indirect, and Cumulative Effects of the Action Alternative

Overstory trees, advanced regeneration, and brush would be removed on 18 acres, increasing visibility within the project area. Over time, as planted trees grow, visibility within the unit would be expected to decrease, similarly to the no-action alternative. A visual screen of trees along the road on the north side of the project area would remain intact, providing a similar level of impeded visibility into the project area as currently exists.

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12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:
Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects to environmental resources.

No changes to demands on limited environmental resources would occur as a result of implementing the No-Action or Action Alternatives.

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13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:
List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

The Montana Department of Natural Resources and Conservation, Northwestern Land Office, Kalispell Unit, issued the Foothills Timber Sale Project EIS in March 2006.

IV. IMPACTS ON THE HUMAN POPULATION

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" If no impacts are identified or the resource is not present.*

14. HUMAN HEALTH AND SAFETY:
Identify any health and safety risks posed by the project.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in human health and safety.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in human health and safety.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:
Identify how the project would add to or alter these activities.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in industrial, commercial and agriculture activities and production.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in industrial, commercial and agriculture activities and production.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:
Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in quantity and distribution of employment.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in quantity and distribution of employment.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:
Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in local and state tax base and tax revenues.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in local and state tax base and tax revenues.

18. DEMAND FOR GOVERNMENT SERVICES:
Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in demand for government services.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in demand for government services.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:
List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

On June 17, 1996, the Land Board approved the SFLMP. The SFLMP provides the philosophy adopted by DNRC through programmatic review (DNRC, 1996). The DNRC will manage the lands in this project according to this philosophy, which states:

> *Our premise is that the best way to produce long-term income for the trust is to manage intensively for healthy and biological diverse forests. Our understanding is that a diverse forest is a stable forest that will produce the most reliable and highest long-term revenue stream…In the foreseeable future, timber management will continue to be our primary source of revenue and our primary tool for achieving biodiversity objectives.*

On March 13, 2003, the DNRC adopted Rules (Administrative Rules of Montana [ARM] 36.11.401 through 450). These Rules provide DNRC personnel with consistent policy, direction, and guidance for the management of forested trust lands. Together, the SFLMP and Rules define the programmatic framework for this project.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:
Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in access to and quality of recreational and wilderness activities.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in access to and quality of recreational and wilderness activities.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:
Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in density and distribution of population and housing.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in density and distribution of population and housing.

22. SOCIAL STRUCTURES AND MORES:
Identify potential disruption of native or traditional lifestyles or communities.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in social structures and mores.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in social structures and mores.

23. CULTURAL UNIQUENESS AND DIVERSITY:
How would the action affect any unique quality of the area?

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

No changes in cultural uniqueness and diversity.

Direct, Indirect, and Cumulative Effects of the Action Alternative

No changes in cultural uniqueness and diversity.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

Direct, Indirect, and Cumulative Effects of the No-Action Alternative

The no-action alternative would not generate any return to the School Trust. No forest improvement fees would be collected. Fuels loadings would likely increase over time which could increase the potential for stand replacement fires.

Direct, Indirect, and Cumulative Effects of the Action Alternative

The Action alternative would generate approximately $2,100 in stumpage revenue and forest improvement fees for the Public Buildings trust. The value of dead standing trees would be realized to the fullest extent practicable. No other uses other than forest management have been identified for the project area.

EA Checklist Prepared By:	**Name:**	Tim Spoelma	**Date:**	09/22/2010
	Title:	Silviculturist/Forest Ecologist		

V. FINDING

25. ALTERNATIVE SELECTED:

Upon review of the Checklist EA and attachments I find the Action Alternative as proposed meets the intent of the project objectives as stated in section I, Type and Purpose of Action. It complies with all pertinent environmental laws, DNRC State Forest Land Management Plan, and a consensus of professional opinion on limits of acceptable environmental impact. The No Action Alternative does not meet the project objectives. For these reasons I have selected the Action Alternative for implementation on this project.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

After a review of the scoping documents, Department policies, standards, guidelines, and the State Forest Land Management Plan (SFLMP), I find all the identified resource management concerns have been fully addressed in this Checklist EA and its attachments. The action alternative provides for income to the school trust and promotes the development of a healthy, biologically diverse, and productive forest. I find there will be no significant impacts to the human environment as a result of implementing the action alternative. Specific project design features and various resource management specialist recommendations have been implemented to ensure that this project will fall within the limits of acceptable environmental change and result in no significant impacts.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

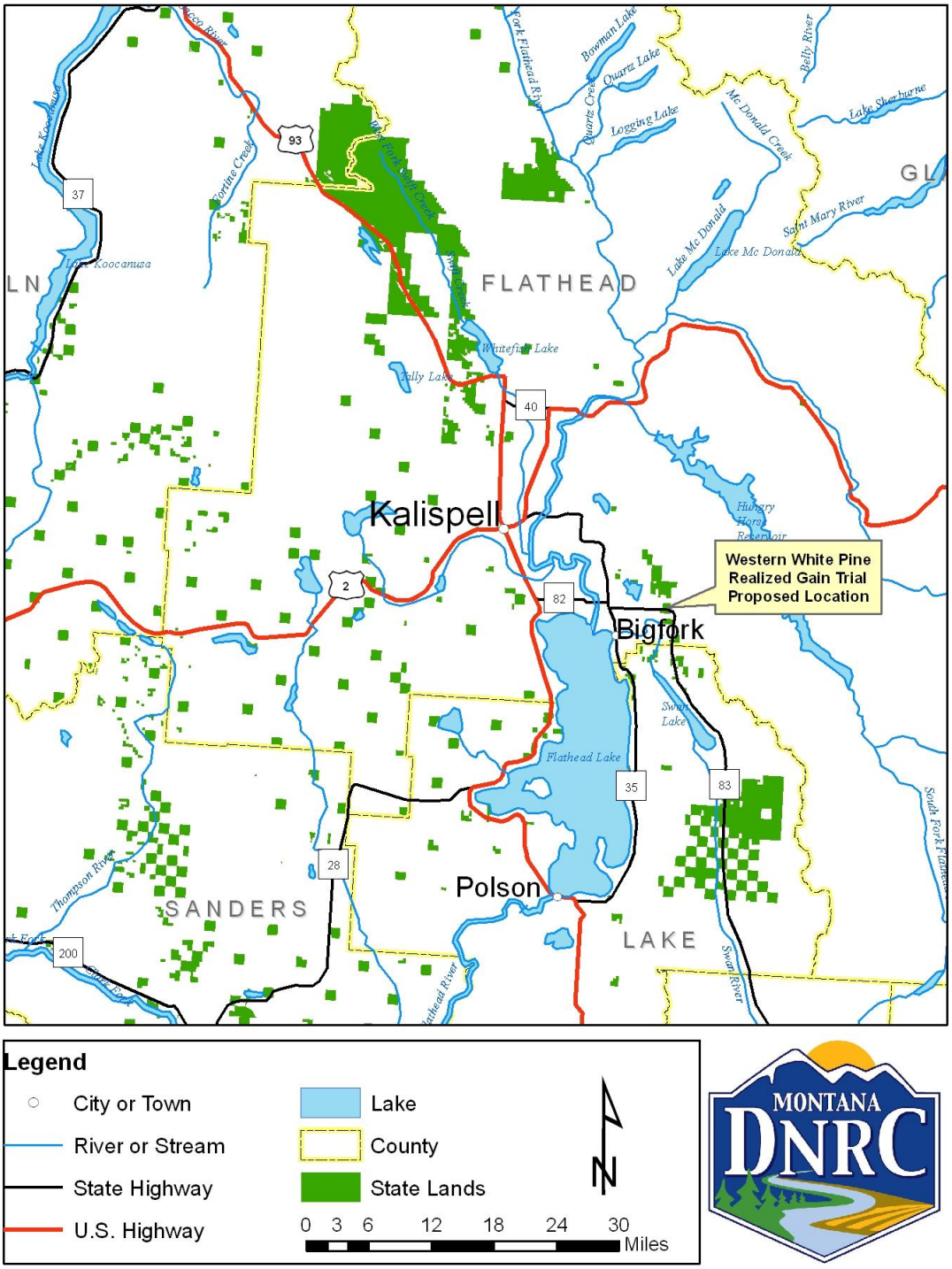
[ ]	EIS	[ ]	More Detailed EA	[X]	No Further Analysis

EA Checklist Approved By:	**Name:**	Shawn Thomas		
	Title:	Forest Management Bureau Chief		
Signature:	/s/ SHAWN THOMAS		**Date**:	9/27/10

Attachment A
Maps

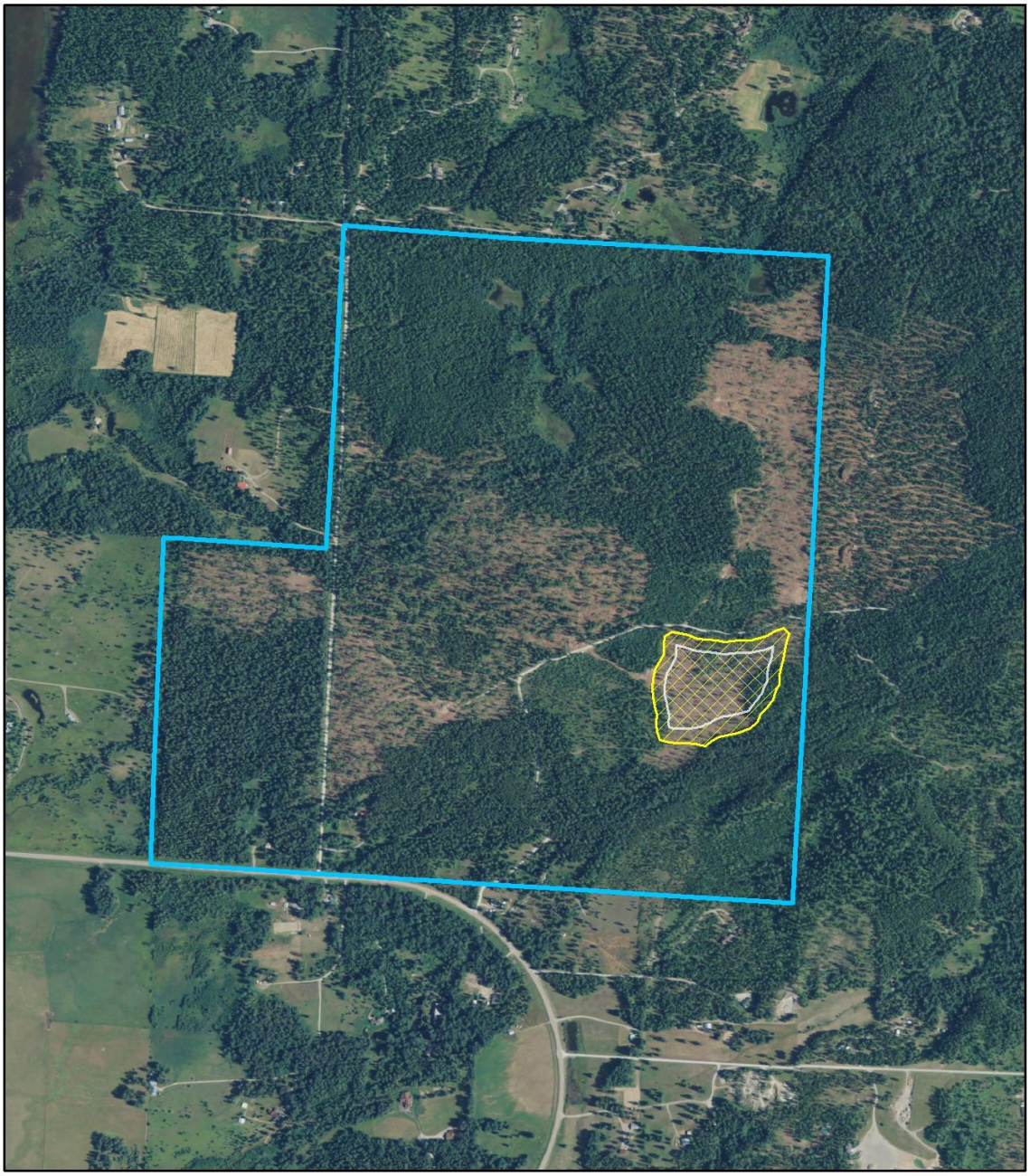
FOOTHILLS WESTERN WHITE PINE REALIZED GAIN TRIAL PROPOSED SITE

Vicinity Map



FOOTHILLS WESTERN WHITE PINE REALIZED GAIN TRIAL PROPOSED SITE

Sec. 14, T.27N, R.19W



Legend

- State Ownership
- Site Preparation
- Timber Harvesting

Unit Size

Timber Harvesting = 18 ac.

Site Preparation = 12 ac.

0 0.1 0.2 0.3 0.4 0.5 Miles

MONTANA DNRC

Tim Spoelma, Montana DNRC, 9/16/2010

Attachment B
Preparers and Consultants

Preparers:

Tim Spoelma, MT DNRC, Forest Management Bureau, Missoula, Silviculturist/Forest Ecologist

Tony Nelson, MT DNRC, Northwestern Land Office, Kalispell, Montana-Area Hydrologist/Resource Analyst

Garrett Schairer, MT DNRC, Northwestern Land Office, Kalispell, Montana-Area Wildlife Biologist

Consultants
Individuals Consulted

Terry Thorpe, Forest Product Accountability Specialist, MT DNRC, Northwestern Land Office, Kalispell, Montana
Tony Nelson, Hydrologist / Resource Analyst, MT DNRC, Northwestern Land Office, Kalispell, Montana
Garrett Schairer, Wildlife Biologist, MT DNRC, Northwestern Land Office, Kalispell, Montana
Marc Rust, Director, Inland Empire Tree Improvement Cooperative, Moscow, Idaho

Attachment C

Request for Approval of Alternative Practices to the State Forest Land Management Administrative Rules (ARM 36.11.401-450)

Completing this form, attaching any supporting maps and documentation, and submitting it to the Forest Management Bureau Chief, serves as the formal request for site-specific alternative practices pursuant to ARM 36.11.449. Once signed by the Bureau Chief the form serves as the decision document.

ARM 36.11.449 reads:
(1) The department shall comply with ARM 36.11.401 through 36.11.445 when conducting forest management activities, unless approval has been obtained from the forest management bureau chief for alternative forest management practices. Alternative practices may be designed in response to site-specific conditions encountered while planning forest management activities.
(2) The forest management bureau chief may approve proposed alternative practices only if such practices would be otherwise lawful, and it is determined with reasonable certainty that the proposed alternative practices would provide adequate levels of resource protection.

Description of the Project

(Provide a summary with enough information to put the request in context, including type of project, location, related environmental documents, etc. If a timber project: estimated volume, summary of road work, etc. as relevant to the alternative practices.)
The DNRC Forest Management Bureau wishes to establish a realized gain trial for western white pine on trust lands. The purpose of this trial is to monitor blister rust infection rates and subsequent survival and mortality of various generations and families of rust-resistant western white pine. Establishing this trial would involve a cooperative effort among the DNRC, Inland Empire Tree Improvement Cooperative, and USDA Forest Service. In cooperation with the Kalispell Unit, NWLO, a candidate site for this trial was identified on a parcel of trust land in Section 14, T.27N, R.19W approximately 5 miles northeast of Bigfork, MT.

The study design calls for a plantable area of at least 10.5 acres surrounded by a 100-foot buffer from any existing seed walls, resulting in a required area of approximately 18 acres to install the trial. The existing overstory, including snags and snag recruits, must be removed on all 18 acres, and site preparation (slash removal) would occur on approximately 11 acres to prepare a plantable area for the test trees. Within the plantable area, test trees will be planted in blocks of 49 with an 8'x 8' spacing, with either 40 or 44 blocks in each replication. There will be three replications on the site. Two rows of border trees will be planted in the 100-foot buffer surrounding the test trees.

The candidate site was harvested as a part of cutting unit BL2 of the Foothills #1 Timber Sale. Salvage harvesting to recover blown down seed trees within the cutting unit occurred in 2009 and 2010. There are currently approximately 3 trees/acre not including snags/recruits in the cutting unit. The activities necessary to prepare the site and install the trial include the following:

1. Overstory removal on approximately 15 acres
2. Clearcut approximately 3 acres
3. Excavator site preparation on approximately 12 acres
4. Pile burning to dispose of slash
5. Planting on approximately 12 acres
6. Tree browse prevention (PlantSkydd and seedling nets) on approximately 7300 seedlings.

The Rule(s)

ARM # and exact text of the rule(s)

36.11.411 BIODIVERSITY - SNAGS AND SNAG RECRUITS

(1) The department shall retain snags and snag recruits in all harvest units involving live timber, including seed tree removals, fire, and other salvage operations as follows:

(a) On the warm and moist HTG and the wet HTG, the department shall retain an average of approximately two snags and two snag recruits over 21 inches DBH, per acre.

(b) On all other HTG, the department shall retain an average of approximately one snag and one snag recruit over 21 inches DBH, per acre.

(c) In all cases, if snags or recruits over 21 inches DBH are not present, the next largest size snag or recruit shall be retained.

(d) Retained snags and recruits may be evenly distributed or clumped.

(e) If there is an absence of sufficient snags or recruits, some substitution between the two may occur.

(f) Cull trees shall qualify as recruits provided they do not contribute to:

(i) insect and disease problems;

(ii) pose a human safety issue; or

(iii) present concerns over dysgenic practices.

36.11.414 BIODIVERSITY - RETENTION OF COARSE WOODY DEBRIS

(1) Adequate CWD shall be left on site to facilitate nutrient conservation and cycling, maintenance of biodiversity, wildlife needs, and other considerations.

(2) CWD retention amounts shall be determined at the project level using scientifically accepted technical references as determined by the department.

The Alternative Practices Being Requested:

Describe in detail the alternative practices that would be conducted instead of applying the rule in whole or in part.

Installing the trial requires the complete removal of the overstory, including snags and snag recruits, on 18 acres, which conflicts with ARM 36.11.411—Biodiversity-Snags and Snag Recruits. Complete overstory removal is necessary to 1) provide a uniform site with consistent levels of sunlight and shade for each tree planted, and 2) avoid unnecessary or unintentional mortality of test trees due to overstory trees falling on test trees.

Installing the site also requires a degree of site preparation that will leave less CWD on a portion of the site (12 acres) than would typically be left under normal operations. Larger diameter slash, such as logs and root wads of fallen trees, must be removed from the site in order to provide continuity for planting spots within the site. Tree are to be planted in 49 tree blocks, and the loss of a planting site within a block would require moving the entire block, necessitating a larger area for the site. The best information available indicates that approximately 12-15 tons/acre of CWD should be left following harvesting on sites similar to the proposed trial site; however, the level of site preparation necessary to provide a maximum number of planting spots within the smallest possible area would leave approximately 5 tons/acre of CWD. The CWD left on the 12 acres following site preparation would consist of fine materials that could be moved by hand when planting trees. Larger CWD would be removed from the site during site preparation activities and either left or burned in piles in the 100-foot buffer surrounding the test trees.

How Adequate Levels of Resource Protection Would be Provided

Provide a brief discussion of the potential effects of the target resource(s), detailed description of the alternate mitigations incorporated, and justification for how adequate levels of resource protection are being provided under the proposal.

Establishing a realized gain trial for western white pine is a one-time opportunity that involves the use of a small and specific area to conduct a research project that will inform researchers, and ultimately forest managers who manage for western white pine, of interactions between white pine blister rust and resistant strains of western white pine. Because of the limited size and scope of the project, impacts to snags and snag recruits and CWD resources within the section where the project occurs are expected to be minimal. Although snags and snag recruits would be removed in the 18 acre project area, harvested areas within Section 14 have left the minimum number of snag and snag recruits and adequate amounts of CWD specified by the Administrative Rules. Unharvested stands within Section 14 would continue to provide snag and snag recruits at their current levels for the foreseeable future.

The Site-Specific Conditions Encountered that the Alternative Practices are Designed to Address

Describe the site-specific conditions encountered including the reasons for the request, and provide as appropriate, information that substantiates the request such as an economic analysis, scientific references, personal communications, and maps.

The site for the proposed project currently contains snags, snag recruits and CWD that must be removed from the site in order to control for and reduce variability in site conditions to the greatest extent practicable.

Timeline

Indicate if there are sensitive timelines related to the decision.

The trial would be planted in the spring of 2011, requiring that overstory removal, site preparation, and planting grid layout are completed during the fall of 2010.

Signature of Project Leader	**Date**
/s/ Timothy P. Spoelma, FMB Silviculturist/Forest Ecologist	9/14/2010

Review and Decision by the Forest Management Bureau Chief

Upon receipt of the request, the Chief will contact the project leader to (1) establish a deadline for the decision and (2) discuss whether any additional information or discussions are needed for the Chief to make a decision on the request. Typically there will have been informal discussions preceding the formal request.

Decision

I have reviewed this proposed alternative practice and have determined that there would be minimal potential for additional adverse effects to snags and coarse wood debris as a result of implementation. I believe as proposed the mitigations planned would provide for adequate levels of resource protection as intended in authorizing an alternative practice. I am therefore approving this alternative practice.

Signature

/s/ SHAWN THOMAS	9/27/10
Forest Management Bureau Chief	**Date**